Interpretation of HED 6 to 13 DHEM Data

For

Bass Metals Ltd

By

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SUMMARY

DHEM data collected in drill holes HED 6, 7, 8 , 9, 11 , 12 and 13 did not identify any EM effects which could be attributed to 3D conductive targets not intersected by the drill holes. These results essentially preclude the existence of a moderated size target to within 150 – 200 meters above and / or below the drill hole, for conductors on sections (along strike) over and up to 100 meters from the drill hole section.

1. INTRODUCTION

Seven drill holes HED 6 - 13 were drilled in 2007 , to the south and west of the location of the Hellyer ore body (Figure 1 and 5) . The drill holes were testing favourable geological and structural locations for emplacement of VMS targets close to the Hellyer ore body. None of the drill holes intersected significant mineralisation and were subsequently used as down whole EM (DHEM) platforms to ascertain the presence of a nearby VMS systems that may not have been intersected by the drill holes. The purpose of this report is to present the DHEM and discuss DHEM data collected in drill holes HED 6 to 13.

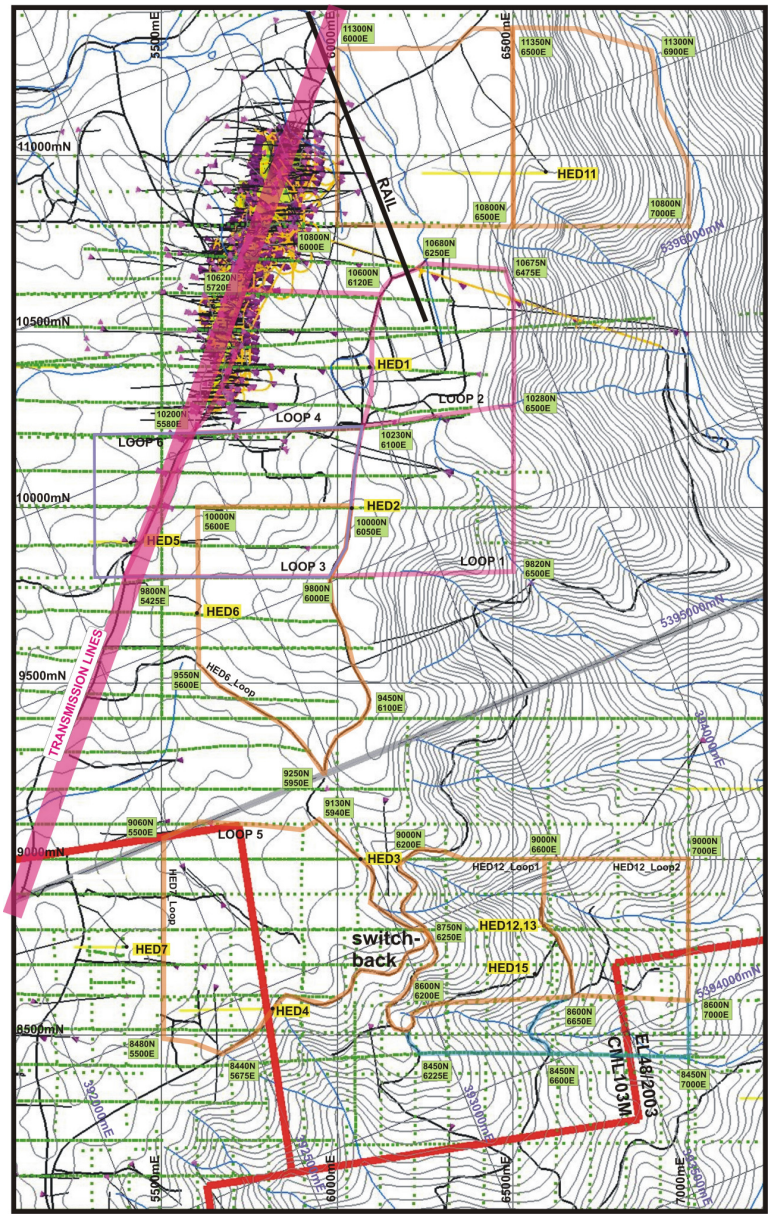

Figure 1. Drill hole and Loop Location for HED 6 – 13

2. APPLICATION OF DHEM SURVEYS TO DETECT OFF HOLE HELLYER STYLE VMS DEPOSITS

One of the important contributing factors in the discovery of the Hellyer VMS deposit was the application of time domain electromagnetic (TDEM) surveys over the Que River/Hellyer exploration licence (Silic, 1985). Subsequent to the discovery, it was also recognised that collecting Down Hole EM (DHEM) data not only resulted in the possibility of detecting VMS targets that may have been missed by drill holes and /or were too deep to have been detected by surface EM Surveys, but could also be utilised to sterilize the area in the vicinity of the drill hole. Effective use of DHEM data to sterilize ground or to exclude the possibility of locating a conductive VMS targets within a certain area, however **usually requires data from adjoining drill holes or drill holes drilled on a predetermined separation the latter related to the strike length of the postulated target (Silic 1985, Silic and Eadie 1989, Silic, 1989).**

To illustrate the validity of preceding statements, modelled response from an off hole target some 200 meters away from the drill hole is presented (Figure 2). The conductor has a 350 meter strike length and a 150 meters depth extent. The response of three models is presented, the drill hole over the centre, over the northern extremities and 100 meters to the north of the conductor (Figure 2a-2c).

As the data shown in Figure 2a -2c, illustrates, there is a dramatic decrease in the targets EM response as the drill hole is positioned to the north of the target. In fact using accepted EM system noise levels, this target would be barely detectable if the drill hole in 100 meters to the north of it (Figure 2c). This detection limitation is largely controlled by the target's depth extent in relation to distance from drill hole. Data collected in the vicinity of the Hellyer ore body has demonstrated this effect, **with the ore body not detected by the DHEM data collected within a drill hole 100 meters to the south of the ore bodies southernmost extremity (Silic, 1985).**

As a result effective use of DHEM data to sterilize large areas of prospective geology usually requires collecting the data in more than one drill hole separated by about the strike length (+ 100 – 200 meters) of the anticipated target .

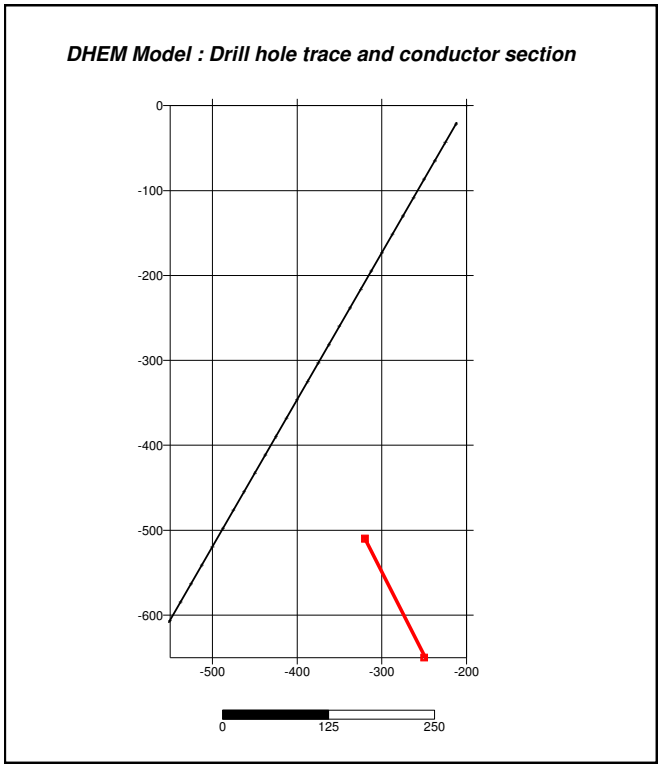

Figure 2. *DHEM Model: Drill hole trace and conductor section*

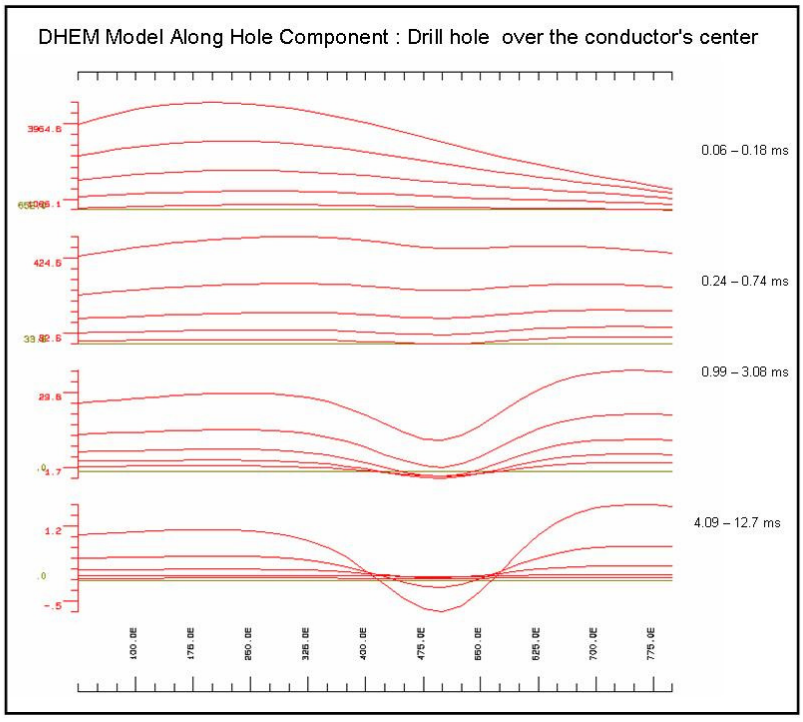

Figure 2a. *DHEM Model Along Hole Component: Drill hole over the conductor's center*

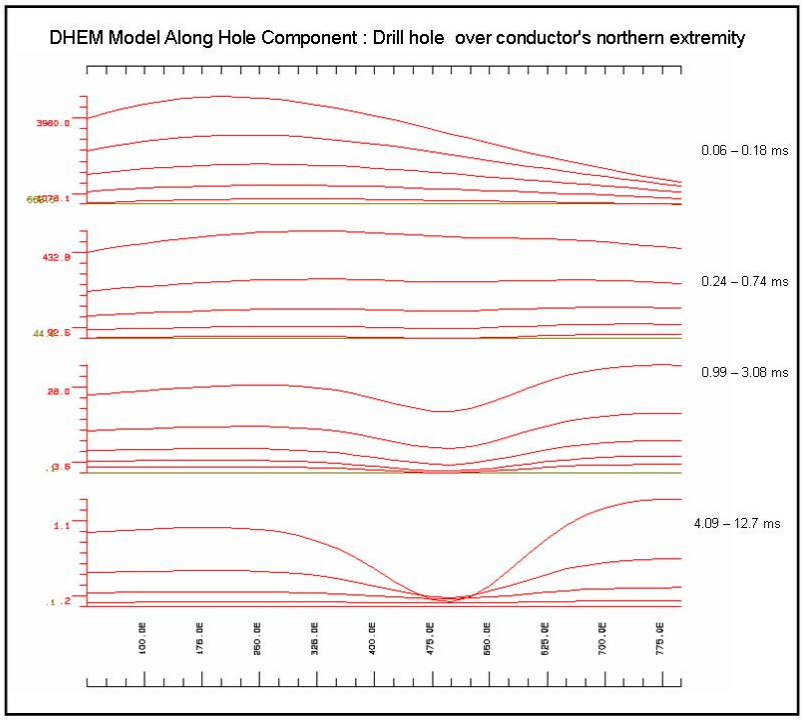

Figure 2b. ***DHEM Model Along Hole Component: Drill hole over conductor's northern extremity***

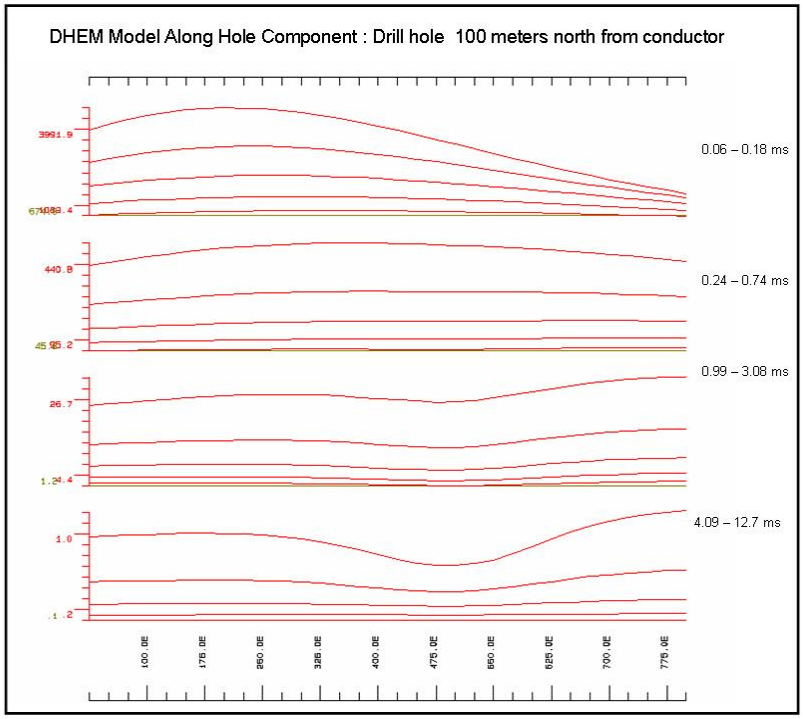

Figure 2c. ***DHEM Model Along Hole Component: Drill hole 100 meters north from conductor***

3. SURVEY PARAMETERS

DHEM data was collected by Outer-Rim Exploration using the Crone DHEM system operating at a 20 millisecond time base facilitating sampling of the decay curve till 16.05 milliseconds after the transmitter current turn off. Ten loops were used to energize the area around the drill holes (Figure 1 and 5) and were designed so that the magnetic field generated by these loops would couple (cut across) a number of possible targets of varying dips and geometries. To ensure that the "smallest" possible targets and/or far away from the drill hole were detected. DHEM data was collected with an ambient late time noise envelope of 0.1 pico Teslas/ second (pT/s). If no target response was evident in the along hole component data, cross hole component data was not collected.

4. DISCUSSION OF HED 6 – 13, DHEM DATA SET

(a) HED 6

No EM effect which could be attributed to a 3D conductive target away from the drill hole is evident in this data set. Only "flat" background responses can be interpreted. (Figure 3).

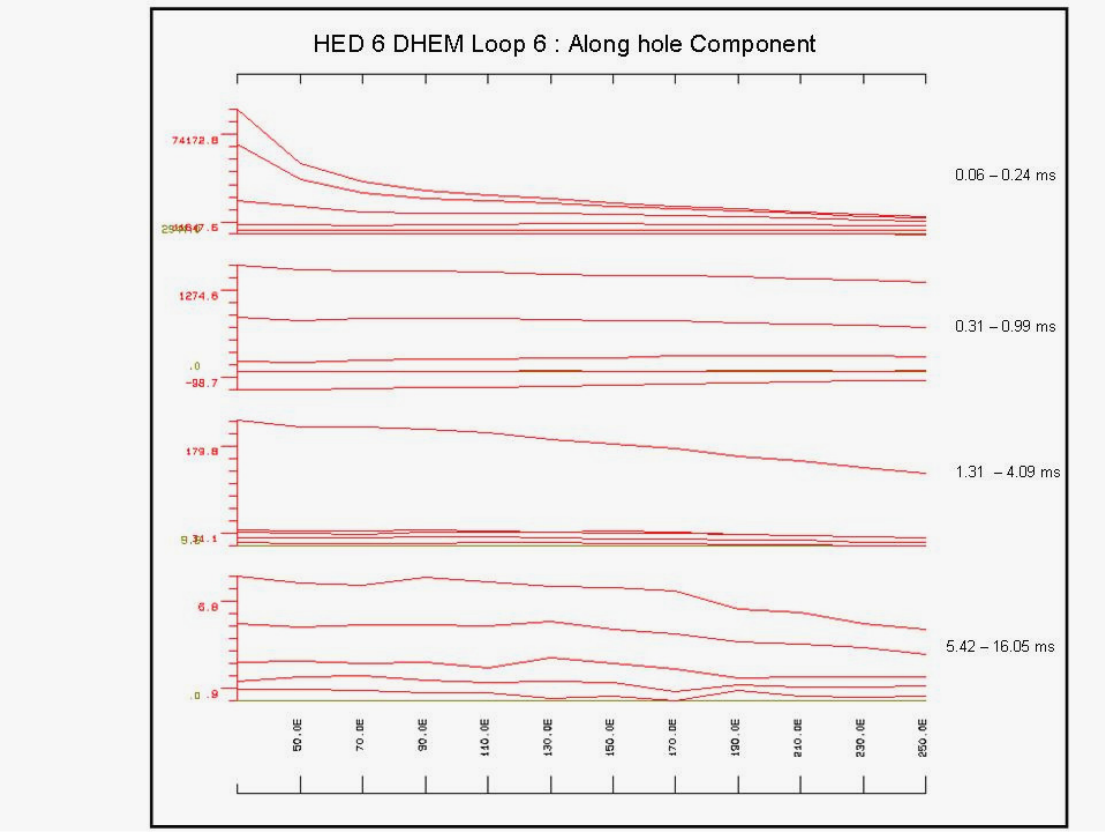

Figure 3. HED 6 DHEM Loop 6: Along hole Component

(b) HED 7

The EM response measured in HED 7 can only be reconciled with the response of the resistive geology, typical for the Hellyer exploration licence area (Figure 4). No EM effects which could be attributed to a neaby 3D conductive targets are evident.

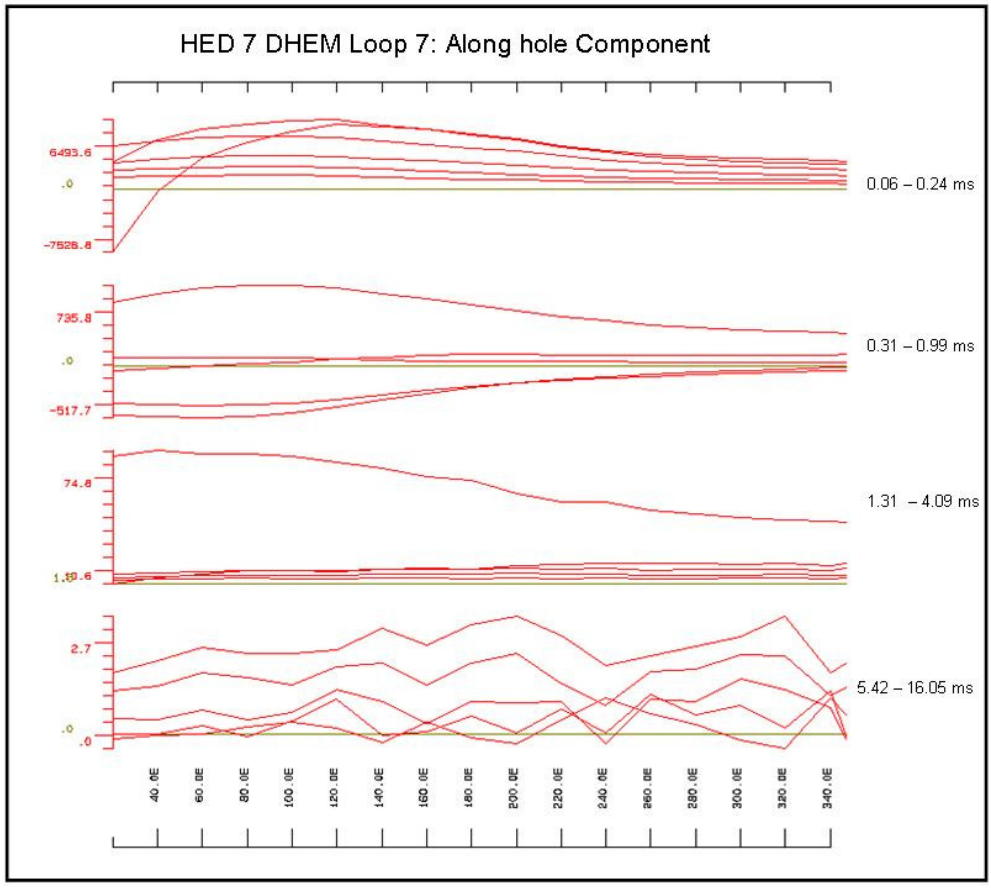

Figure 4. HED 7 DHEM 7: Along hole Component

(c) HED 8

DHEM data in HED 8 and 9 was collected using the same loop (Figure 5). EM response measured in HED 8 can only be reconciled with the presence of a near surface poorly conductive feature and normal background effects (Figure 5a).

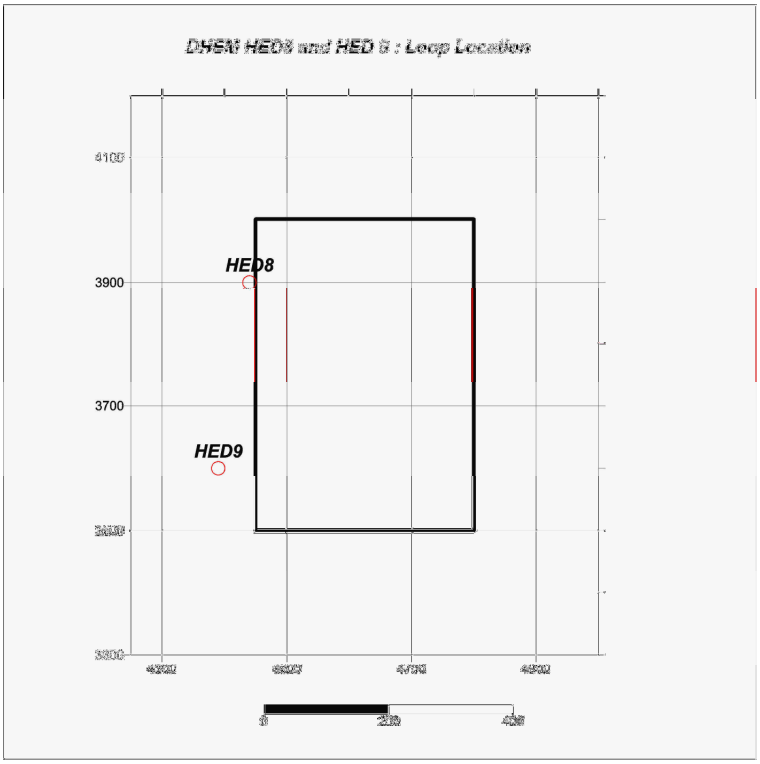

Figure 5. DHEM HED 8 and HED 9: Loop Location

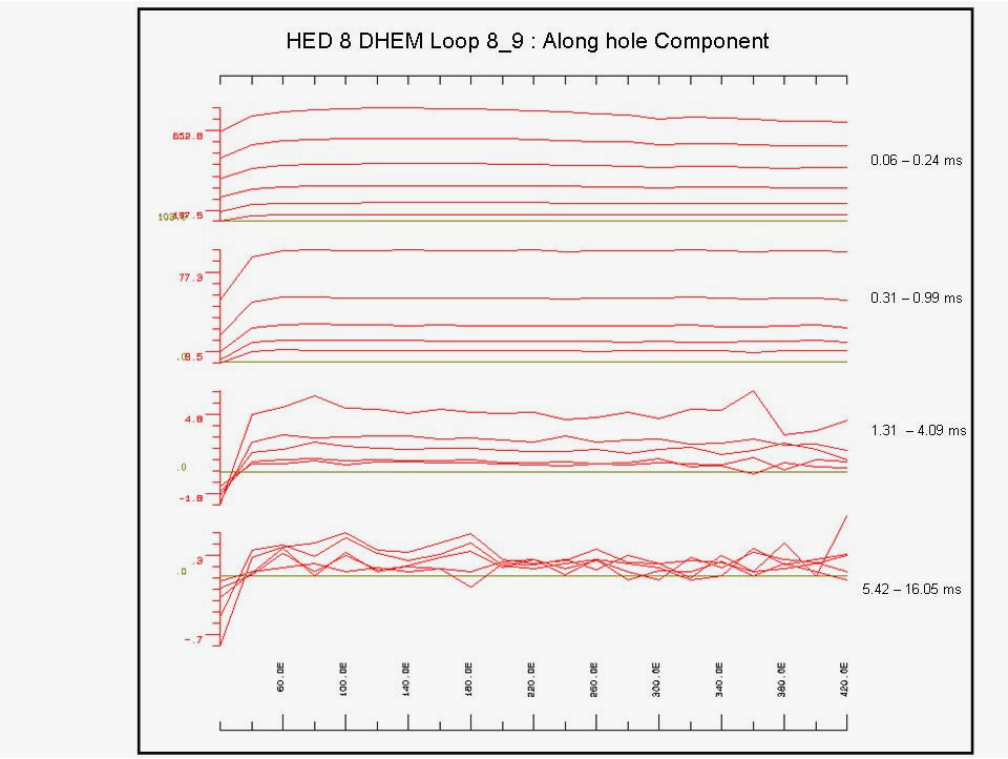

Figure 5a. HED 8 and DHEM Loop 8_9: Along Hole Component

(d) HED 9

Using the loop as shown in Figure 5 , no EM effects which can be attributed to off hole 3D conductive targets are evident in the HED 9 DHEM data set (Figure 6) .

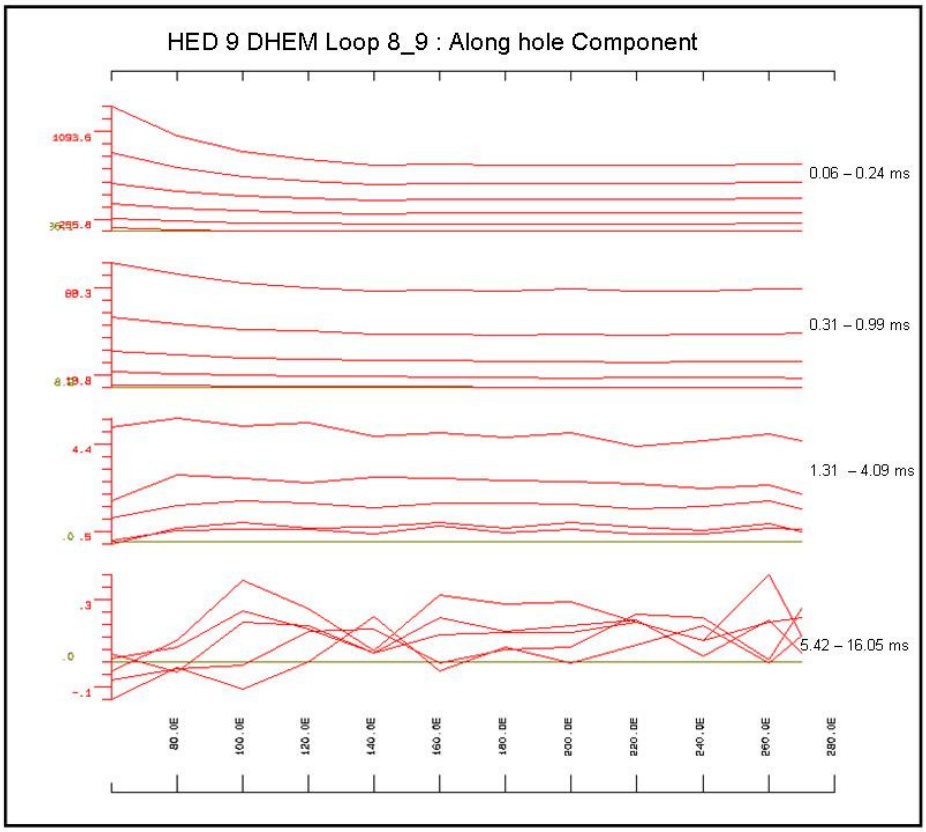

Figure 6. HED 9 DHEM Loop 8_9: Along hole Component

(e) HED 11

HED 11 a 900 meter long drill hole intersected both the Hellyer target position and the overlaying Que River shale (Figure 7) . In order to detect targets up dip and down dip from the intersected Hellyer time horizon two loops of DHEM data was collected, with loops located to the east and to the west of the drill collar .DHEM data however only identifies the poorly conductive Que River shale between 650 – 750 meters down hole distance and above the Hellyer time horizon. (Figures 7a and 7b) .

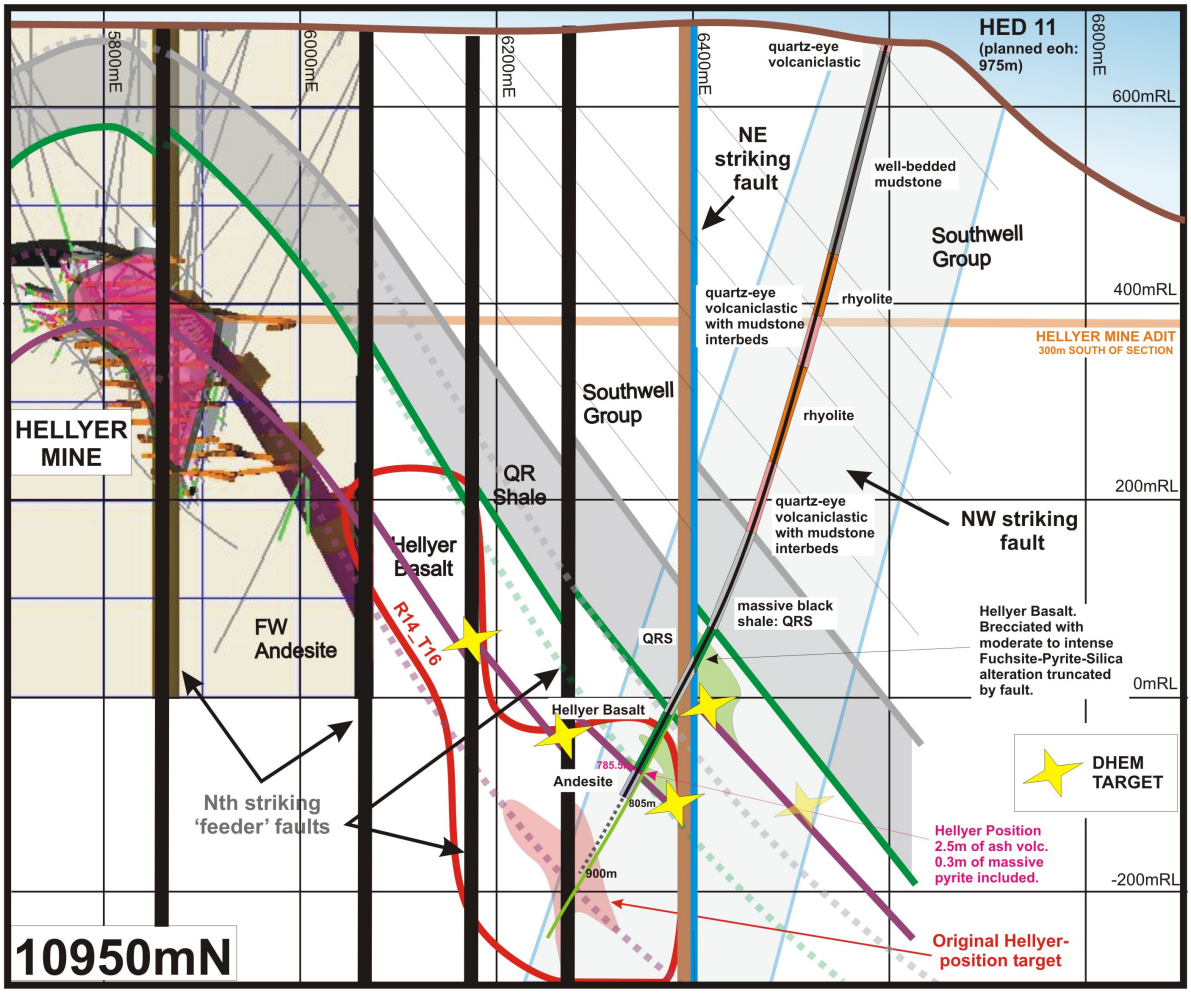

Figure 7. *HED 11 Geologic Section 10950 N*

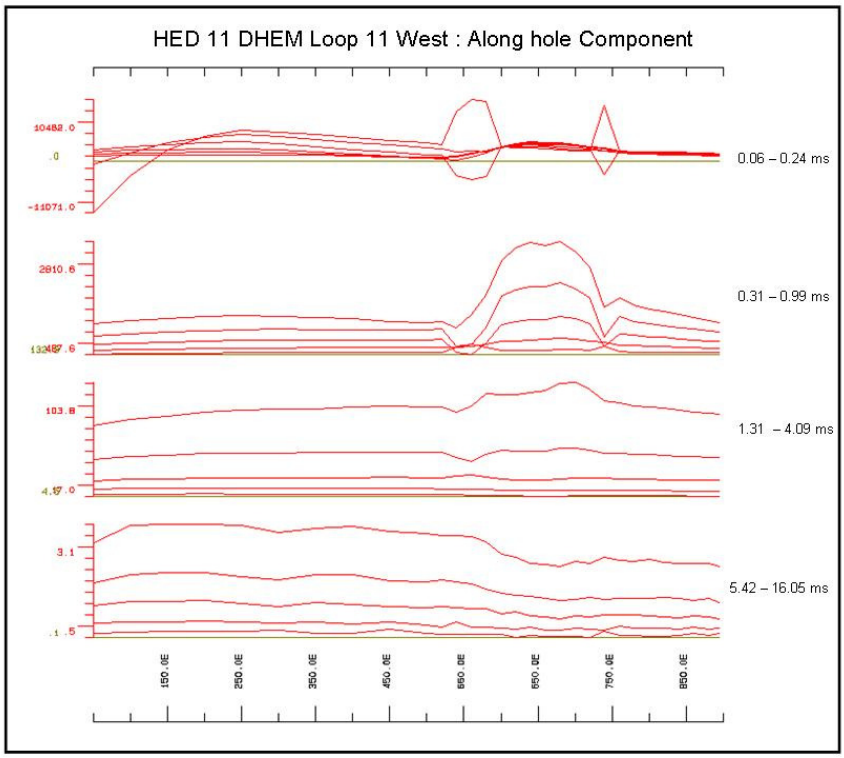

Figure7a. *HED 11 DHEM Loop 11 West: Along hole Component*

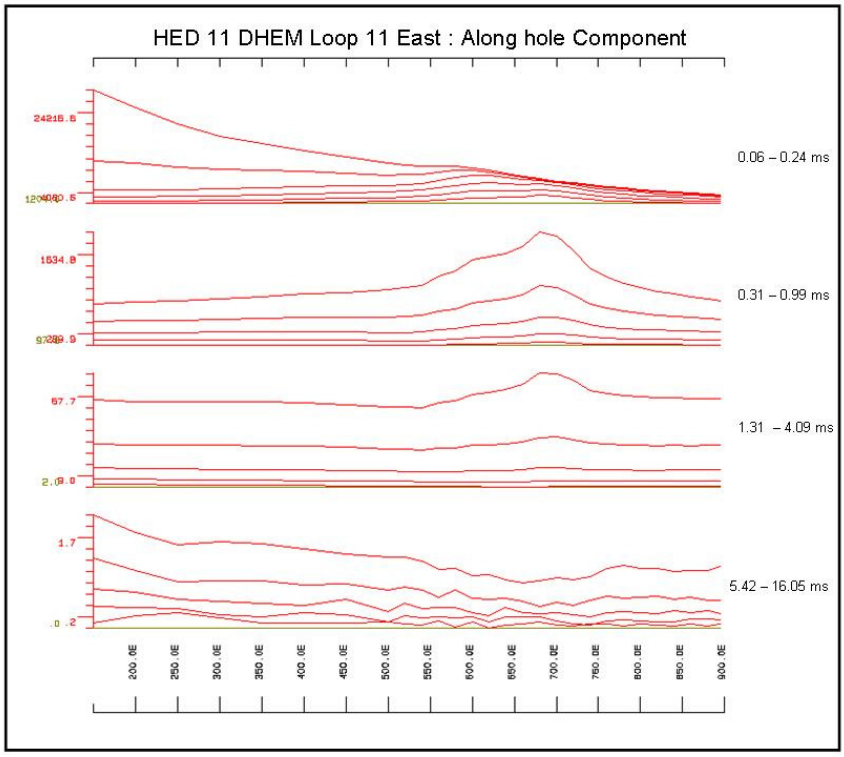

Figure 5. *HED 11 DHEM Loop 11 East: Along hole Component*

(f) HED 12 and 13

Drill holes HED 12 and 13 intersected both the footwall pyritic alteration and the hanging wall fuchsite alteration (Figure 8). Two loops were used to energize potential massive sulphide targets to the east and west of the intersected Hellyer ore position. DHEM data in both drill holes however does not identify any effects which could be attributed to nearby 3D conductive bodies (Figure 8a – 9a).

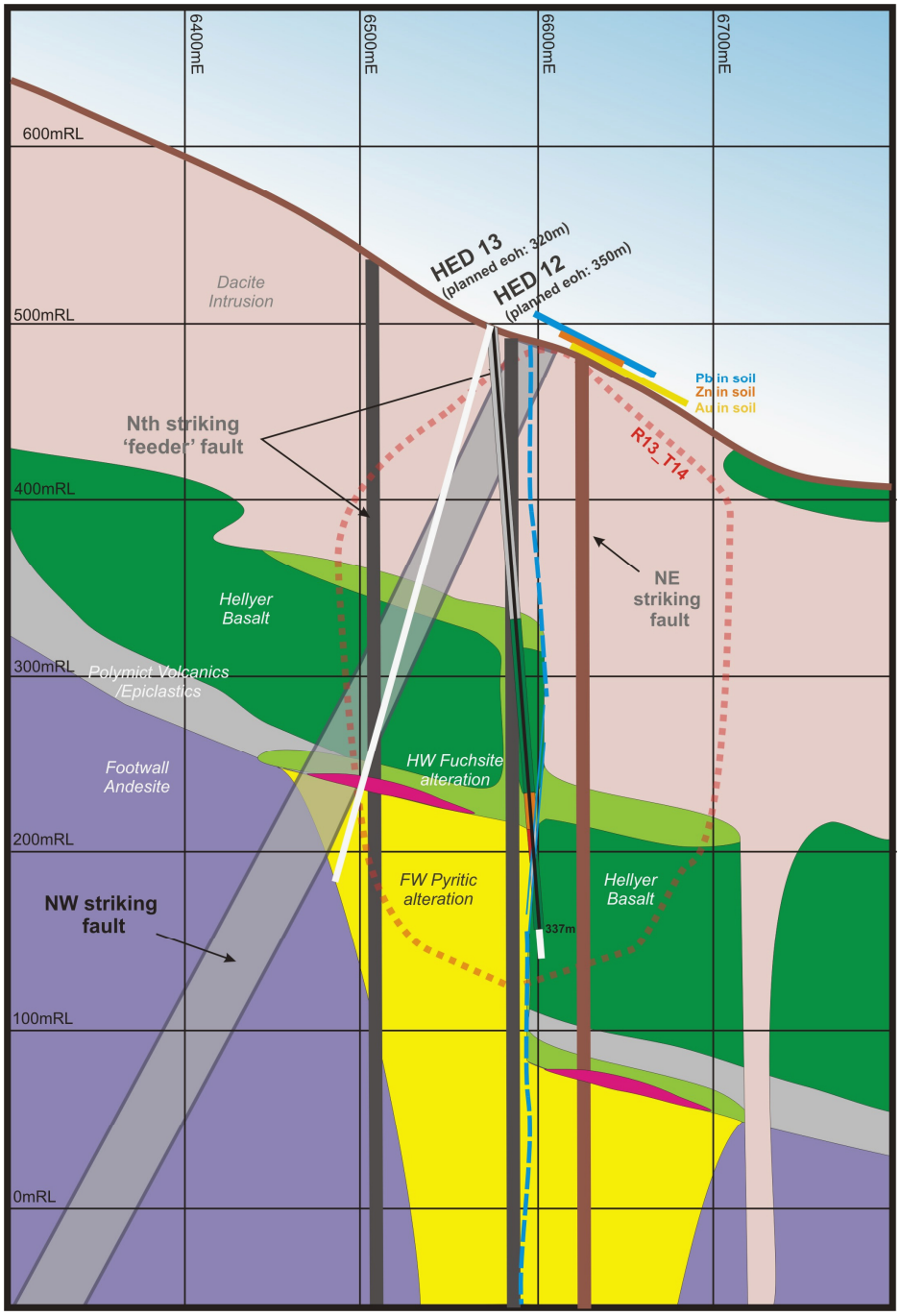

Figure 8. HED 12 and 1 Geological Section

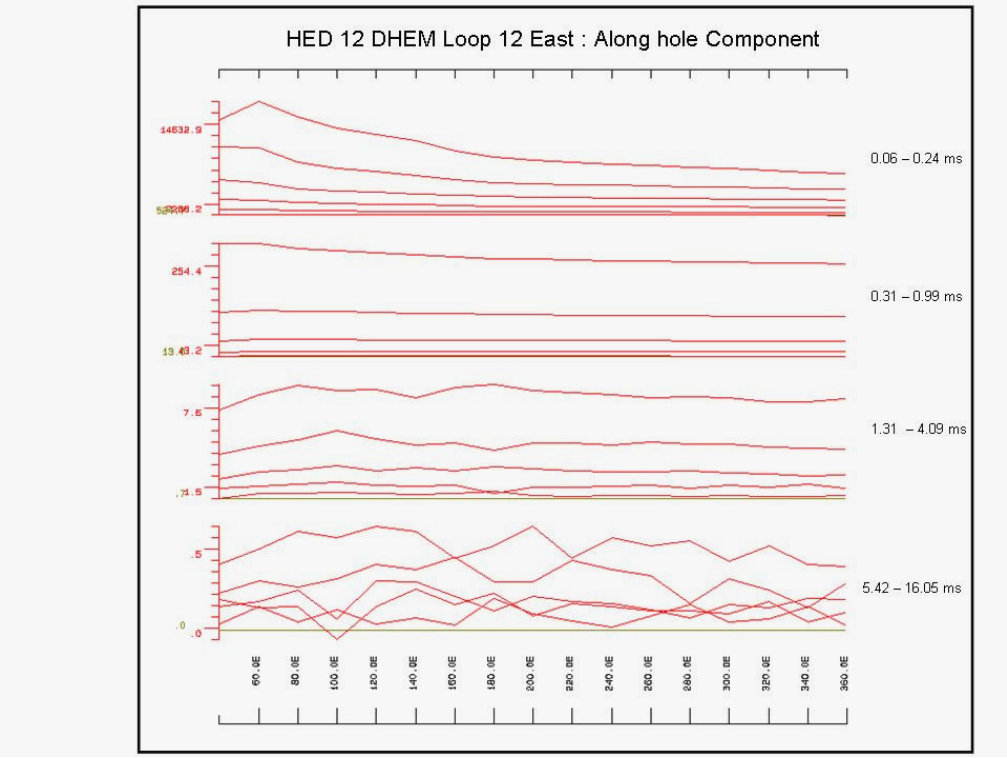

Figure 8a. *HED 12 DHEM Loop 12 East: Along hole Component*

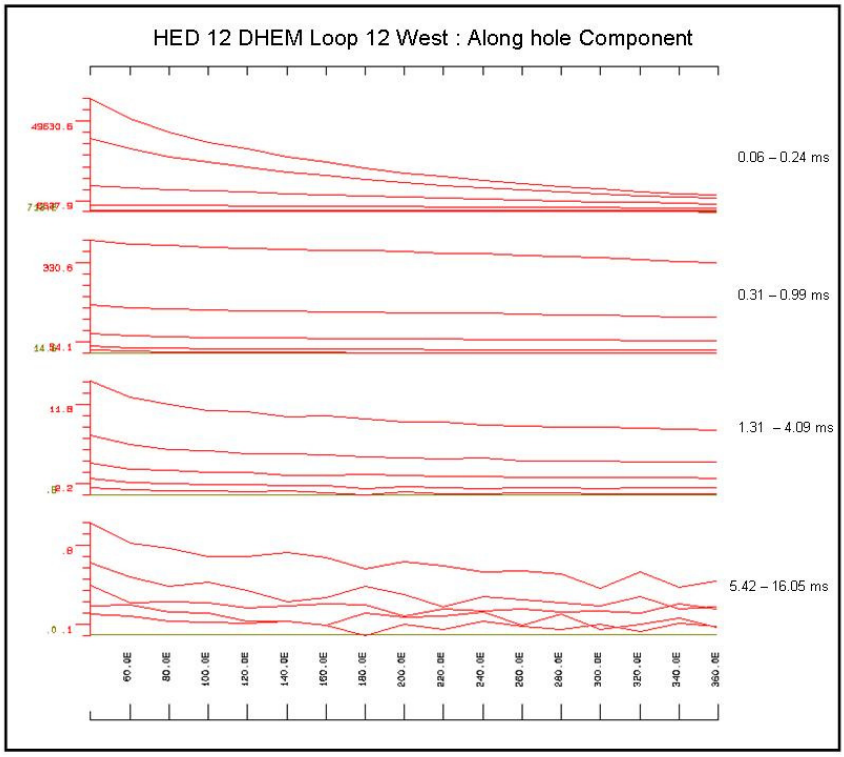

Figure 8b. *HED 12 DHEM Loop 12 West: Along hole Component*

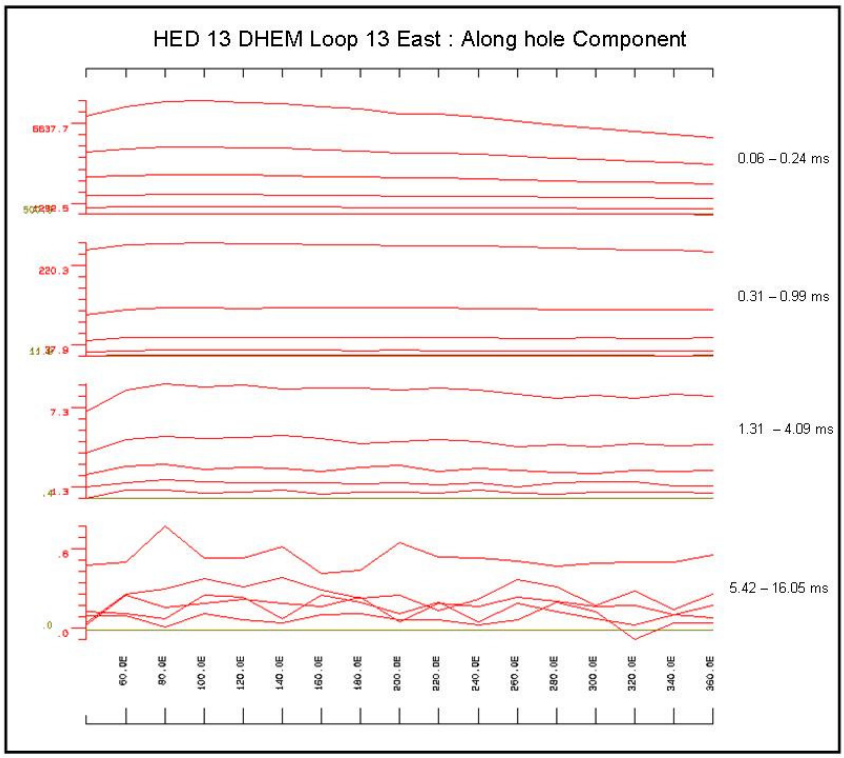

Figure 9. *HED 13 DHEM Loop 13 East: Along hole Component*

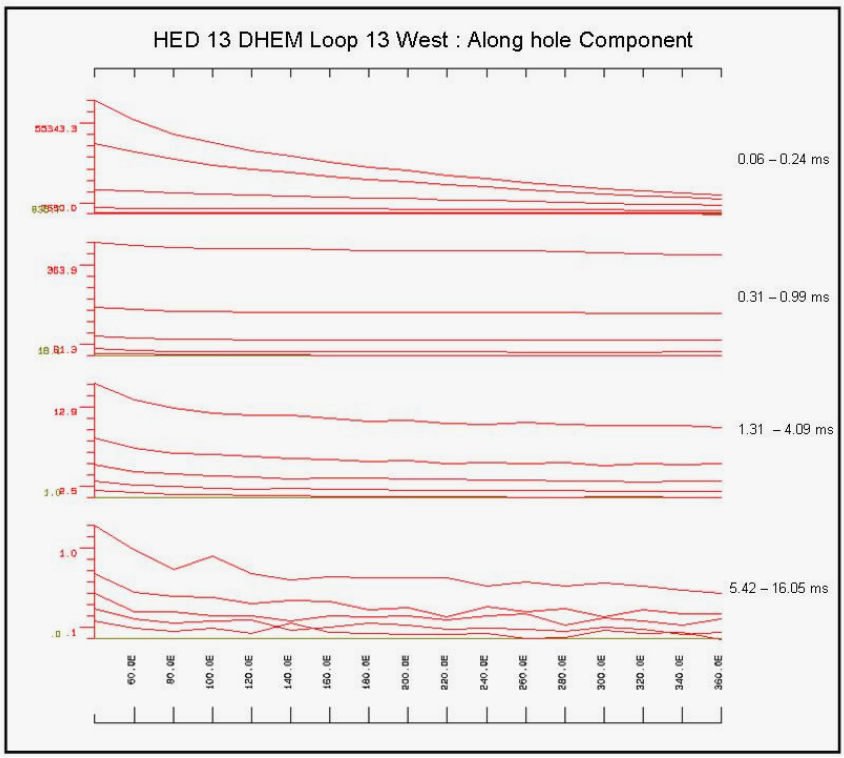

Figure 9a. *HED 13 DHEM Loop 13 West: Along Hole Component*

CONCLUSION

DHEM data collected in drill holes HED 6, 7, 8 , 9, 11 , 12 and 13 did not identify any EM effects which could be attributed to 3D conductive targets not intersected by the drill holes. These results essentially preclude the existence of a moderated size target to within 150 – 200 meters above and / or below the drill hole, for conductors on sections (along strike) over and up to 100 meters from the drill hole section.

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